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ABSTRACT

In the mid 1970's the goals of student financial aid revolve around the idea of removing financial barriers to access and reasonable choice. Students should be able to choose an institution based on rational decision making rather than monetary considerations. To this end the Federal Government, the states, and other sources of student financial aid have developed a whole array of programs designed to move us toward the goal of equal educational opportunity. Yet the formulas differ for distributing the funds under these programs, and all too often the funds appropriated fall far short of the program purposes. For a more equitable system to be developed: (1) a student and his family must be assured early in the student's formal education that financial aid will be available: (2) announcement of the amount of aid should be made before the student to select an institution so that this decision is not dictated by purely financial considerations; (3) to achieve equal educational opportunity, the determination of student need must be based on one method of need analysis used by all who grant student aid; and (4) sufficient funds should be provided to meet the financial need thus determined. (Author)

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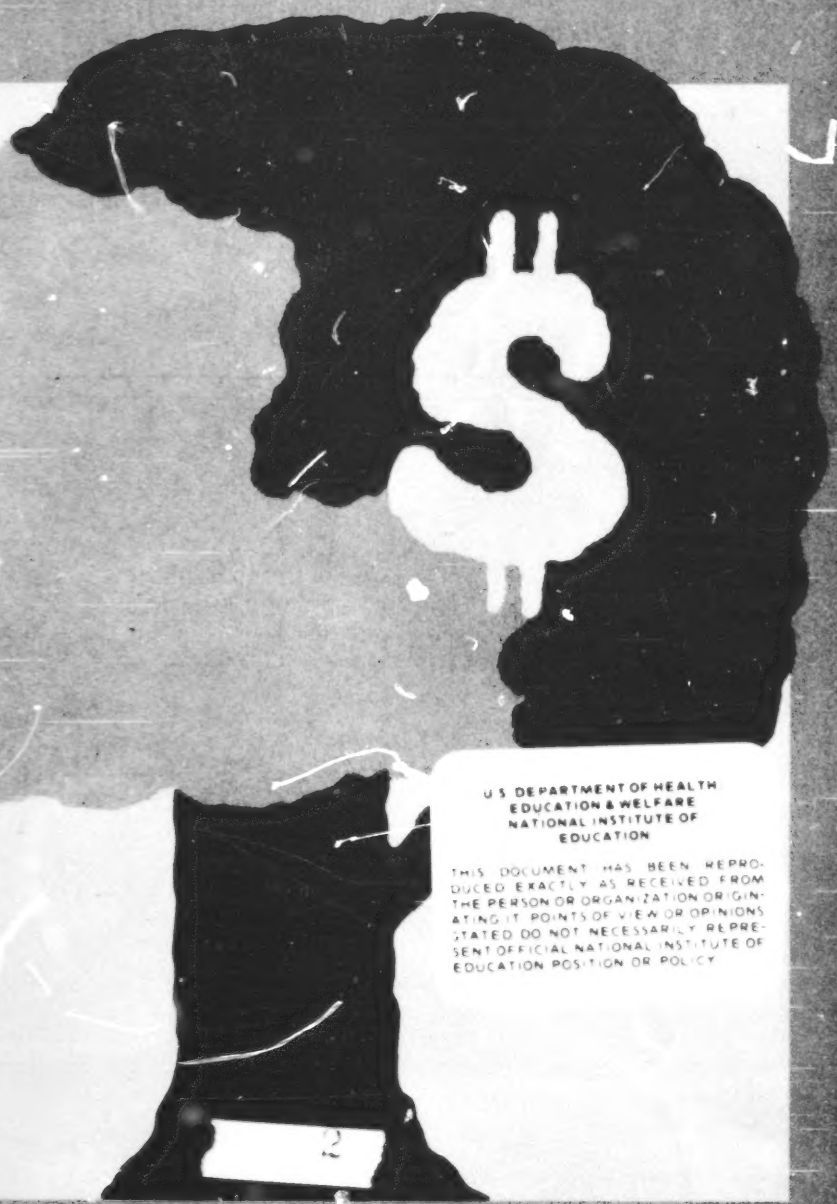
Applying the Goals of Student Financial Aid

Jonathan D. Fife



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Applying the Goals of Student Financial Aid

Jonathan D. Fife

ERIC/Higher Education
Research Report No. 10
1975

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Foreword

When President Truman appointed Earl McCrath Commissioner of Education in 1949 he told him: "Mr. Commissioner, I never went to college. I want every boy and girl in this country to go just as far with his education as his abilities and desires will take him. That is and will continue to be the educational policy of my administration." This attitude endured and currently finds expression in the national goal of achieving "equal educational opportunity." However, the way in which this concept of entitlement has been implemented varies greatly. In the mid 1970's the goals of student financial aid revolve around the idea of removing financial barriers to access and reasonable choice. Students should be able to choose an institution based on rational decision making rather than monetary considerations. To this end the Federal Government, the states, and other sources of student financial aid have developed a whole array of programs designed to move us toward the goal of equal educational opportunity. Yet the formulas differ for distributing the funds under these programs, and all too often the funds appropriated fall far short of the program purposes. This can only and often does lead to frustration and disillusionment on the part of the applicants and their parents. The author suggests that for a more equitable system to be developed: (1) a student and his family must be assured early in the student's formal education that financial aid will be available: (2) announcement of the amount of aid should be made before the student has to select an institution so that this decision is not dictated by purely financial considerations; (3) to achieve equal educational opportunity, the determination of student need must be based on one method of need analysis used by all who grant student aid; and (4) sufficient funds should be provided to meet the financial need thus determined. Only when these factors are taken into account can the goal of equal educational opportunity through student financial aid programs be achieved. Jonathan D. Fife is associate director of the ERIC Clearinghouse on Higher Education.

Peter P. Muirhead, Director
ERIC/Higher Education

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Overview

Two changes have made student financial aid of great importance in financing higher education. First is the increasing amount of funds available through student aid programs. In fiscal year 1974-75, there is an estimated $8.3 billion available. Second is a change in the delivery system of student assistance. Historically, students were limited to aid offered by individual institutions. However, with the increased participation of public-funded programs, most aid now available permits students to take their award to any institution that has accepted them.

These changes are a result of three goals established by society and articulated through the various study groups and commissions examining higher education. The first goal is that means should be developed to provide for equal educational opportunity for all citizens who are capable of benefiting from a postsecondary education. This goal has three objectives: to provide students access to a postsecondary education; to allow students reasonable choice, that is, the freedom to select the source of this education; and to permit retention, that is, to enable the student to pursue this education to its conclusion. A second goal is to increase the free flow within the educational marketplace by providing students with sufficient financial assistance to allow them to base their educational decisions on the long-term economic and academic benefits of that education, rather than the short-term costs. The third goal is to establish means to protect the diversity of American higher education by giving support to those institutions that are contributing to the educational needs of society.

It is the premise of this paper that if student financial aid is to act as a viable means to help achieve these goals, there needs to be an understanding of the various factors that effect the achievement of these goals. Since without the achievement of the first two goals of equal educational opportunity—access and choice—it is impossible to achieve the other goals, this paper will focus on the recent studies and research that have examined the various influences affecting a student's motivation and ability to achieve these goals in the pursuit of a postsecondary education.

There are two ingredients in the attainment of access: the motivation to attend and the ability to attend. Research on student motivation indicates that there are four major influences that affect a stu-

dent's desire to pursue a further education: family support, academic ability and achievement, family financial strength, and peer support. These influences play a part over the entire educational career of a student and interact with each other. For example, the amount of family support received by a student is determined in some part by the family's financial strength as well as by the student's past academic achievement. The ability of a student to pursue a postsecondary education is determined by the institutions that admit the student and the student's ability to meet his educational cost. Therefore, in the promotion of access, financial aid has a long-term effect of encouraging students and their families by minimizing financial considerations so they can base their educational decisions on the overall benefits of a postsecondary education, and the more immediate effect of providing sufficient assistance to allow a student to attend some type of postsecondary institution.

The objective of choice is dependent upon access. A student does not have the opportunity to choose a particular institution until access is achieved. Like access, the factors affecting choice are both long and short term. Research studies indicate that there are four major considerations that motivate a student to select a particular institution: the reputation of the institution, the cost of the institution, the social economic status of the student, and the academic ability of the student. Immediate factors affecting choice are the same as those affecting access: the ability of the student to be accepted by the institution of his or her choice, and the ability to financially afford that institution. The degree of influence student aid will have on the long-range factors is dependent upon the student's understanding of what aid is available and the amount of aid he might expect to receive. The impact of student aid on the actual attainment of attending an institution of his or her choice is dependent upon the amount of funds available to that student.

In the final analysis, the amount of influence student assistance has on the achievement of access and choice is dependent upon the students' and their familys' understanding of the availability of aid and the amount of aid offered the student. The amount of aid is dependent upon determination of student financial need. This need is usually determined through a need-analysis system. The amount of need is determined by the various economic and philosophical judgments that make up need-analysis systems. Some systems have been designed to determine a student's absolute need, that is, the amount of need a student has after considering the amount of financial resources available as compared with the actual expenses in-

curred. Other need-analysis systems determine relative need, that is, the amount of financial resources a student should have available as compared with the "average expense" of a student attending a post-secondary institution. A third level of determining the size of student assistance is through a rationing system. Under this approach a financial aid program attempts to maximize the number of students receiving awards by offering awards whose size has been determined not by need but by number of participants in the program.

It is the author's conclusion that several factors must be considered in the planning and development of a student aid program if student aid programs are to act as a viable means to promote access and choice. For financial considerations to be minimized in a student's educational decision, *a student and his family must be made aware very early in the student's education that financial assistance will be available.* For student aid to have an impact on the student's access and choice, *announcement of the size of the assistance should be made before a student has to select an institution, so that a student can base educational decisions on academic and not primarily financial considerations.* The author also concludes that to achieve *equal* educational opportunity *student need-analysis programs must establish one method of determining a student's financial need.*

Introduction

In a little over thirty years student financial aid has grown from relative insignificance to one of the dominant financial forces affecting higher education today. Several important dimensions and changes in emphasis have contributed to this growth, among which are:

1. A startling and monumental growth in funds, numbers of students involved, and programs: From a base of virtually zero before the G.I. Bill in 1944, the federal government has budgeted over $6 billion for student aid in fiscal year 1976. State scholarship and grant agencies, largely nonexistent 20 years ago, awarded nearly $200 million by 1969-70, which burgeoned to $500 million by fiscal year 1975-76. Total funds available for student aid in fiscal year 1975-76 is estimated at over $8.3 billion.

2. A shift from the scholarship-prize type of award for academic, artistic, or athletic ability to predominantly need-based awards: This represents a shift from concern for institutional needs to an attempt to meet individual needs.

3. Increased indirect public support of private institutions: Public funds, both state and federal, are now flowing in large amounts to private colleges and universities in the form of tuition and fees paid by the students with their aid funds.

4. Student financial aid acts as a major instrument of both public and governmental policy: Through the regulations of aid programs, governmental policy has attempted to promote the social goals of equal opportunity—access and choice—that were enunciated by presidential and national commissions. Also, student financial aid has been used to help carry out a governmental strategy to encourage a freer flow of students within the higher education marketplace.

This dramatic change in the importance of student aid programs as a means to achieve specific social goals and to finance higher education has been relatively sudden. In fact, with the exception of the G.I. Bill, a majority of the aid programs did not exist ten years ago. The multitude of aid programs established in the last decade basically have had the same goals. These goals were to: (1) provide the financially disadvantaged with access to some form of postsecondary education; (2) allow these students some freedom to attend the college of their choice; (3) provide aid over a period of years to allow students

to achieve their educational objectives; (4) provide a freer flow of students in the educational marketplace; and (5) help preserve the diversity of higher education. For some programs there also have been two other goals: (1) to encourage more students to major in certain socially-needed occupations, e.g. education, engineering and medicine, and (2) to insure that students of higher artistic, athletic, and academic achievement are able to continue their education.

While all aid programs basically have the same goals, there has been very little analysis done to determine if student aid is a viable means to promote these goals. As these programs developed, certain basic questions remained unanswered: What conditions act as barriers to access and choice? Will aid programs significantly alter a student's college-going decision? What effect do the various needs analyses and regulations of aid programs have on the achievement of these goals? Now that aid programs have become more important, greater attention is being given to answering these questions. Many organizations such as state scholarship offices, legislative committees, and research centers are investigating the actual impact of aid. This report will review the results of these investigations and analyze their findings and recommendations. The premise of this report is that two major goals—access and choice—and the process of determination of the amount of student need are critical in the achievement of the *major* goals set for aid programs. Therefore, without maximizing the impact of aid on student access and choice, the other goals of retention, increasing the dynamics of the educational marketplace, and preserving the diversity of higher education cannot be maximized. In addition, if the methods used to determine the amount of financial need of the student are not adequate, then the achievement of the goals of access and choice are doubtful. This paper, then, will focus on the areas of access, choice, and student need analysis.

To set the stage there will be a brief review of the development, goals, and availability of student aid programs. This will be followed by an examination of the various conditions that affect student access to and choice of a postsecondary institution, and the various systems of analyzing student need. The concluding section will offer specific suggestions the author believes will help to increase the impact of student aid.

Goals of Student Financial Aid

Following World War II there was a strongly egalitarian sentiment about who higher education should serve. This viewpoint was expressed by the President's Commission on Higher Education established by President Truman in July 1946. In their final report the Commission stated:

> The swift movement of events and the growing complexity of our national life and of world affairs makes it imperative, at the earliest possible time, to translate our democratic ideal into a living reality; to eliminate the barriers to equality of educational opportunity; and to expand our colleges and universities to insure that the only factors which which would limit enrollment are the ability and interest of the prospective students. (U. S. President's Commission 1947, vol. 2., p. 1).

Nearly 20 years later, two major study groups, the Carnegie Commission on Higher Education (1968, 1970b) and the Committee for Economic Development (1973), reaffirmed the sentiments of the Truman Report. As stated by the Carnegie Commission:

> . . . the equality of opportunity has long been promised to all of our citizens. Increasingly, such equality means equality of opportunity to obtain a college education. This is a national promise, and the federal government has a special responsibility to aid higher education in carrying out this promise (*Full Text of* . . . December 13, 1971, p. 6).

That the achievement of equal educational opportunity would take years to accomplish and would involve a considerable amount of additional funding did not escape these commissions and study groups. The Truman Report (U.S. President's Commission 1947) astutely pointed out that equal educational opportunity could not be achieved until discriminatory and economic barriers were eliminated. They suggested that the *economic barriers could be eliminated or minimized by providing financial assistance directly to students.* This point was reaffirmed by President Nixon in his March 1970 message on higher education to the U.S. Congress: "No qualified student who wants to go to college should be barred by lack of money. That has long been a great American goal; I propose that we achieve it now" (Nixon 1970, p. 22). This role for student aid was defined by the National Task Force on Student Aid Problems (1975): "The pri-

mary purpose of student aid is to provide financial resources to students who would otherwise be unable to begin and complete the type of postsecondary education they wish to pursue" (p. 6).

Another organization, the American College Testing Program, also believes direct student financial aid helps to minimize economic consideration from a student's access to and choice of an institution. They state in their *Handbook for Financial Aid Administrators* that aid programs are intended to remove financial barriers to education for those who were unable to pay, ease the financial burden for those who were more able to pay, and manifest a special commitment to disadvantaged students (*Handbook for Financial Aid . . .* 1973 pp. 1-2).

Equal Educational Opportunity: Access, Choice and Retention

Essentially, the amount of financial aid must be sufficient to achieve the three basic parts of equal educational opportunity; equal access, reasonable choice, and continuous funding to promote retention. These elements will be discussed in turn.

For an individual to achieve equal educational opportunity, some form of *access* to an institution of further education must be available (Carnegie Commission 1968). Student aid should eliminate the financial barriers that prevent access (The National Commission 1973, p. 53). Equal access has been interpreted to mean that all individuals should be encouraged to pursue some form of further education, regardless of intellect or motivation. However, the major study commissions have been quite clear in stating that equal access only means "equal chance" to further one's education. As stated by the Carnegie Commission:

> We do not believe that each young person should of necessity attend college . . . we therefore oppose *universal attendance* as a goal of American higher education and believe that noncollege alternatives should be made more available and more attractive to young people. We favor, on the other hand, *universal access* for those who want to enter institutions of higher education, are able to make reasonable progress after enrollment, and can benefit from attendance (1970a, p. 11).

The second part of equal educational opportunity, *reasonable choice,* is closely related to access. Not only should a student have a reasonable chance to attend any institution, he should have a reasonable chance to attend an institution that will give him the best educa-

tion according to his academic qualifications and motivation (The National Commission 1973, p. 55). This means if two students with equal intellect and motivation but unequal financial resources qualify for and want to attend a particular institution, student aid should be sufficient to allow the financially disadvantaged student to have the same opportunity for attendance as the financially advantaged student.

The third part that must be fulfilled in order for equal educational opportunity to be achieved is that of *retention*. In other words, students should have sufficient means to pursue their education as long as they are qualified and motivated. If this does not occur, then the aid program falls short of full equal educational opportunity. While this point appears to be basic, many of the study commissions have failed to articulate it. In fact many of the student aid programs, in an attempt to maximize the distribution of their resources, fail to give sufficient continuing support to insure the student's ability to continue his education (National Task Force 1975).

Stimulating the Academic Marketplace

A second major goal that has been most commonly proposed for student aid is the stimulation of competition in the academic marketplace (*Student Assistance . . .* 1972; Leslie and Johnson 1974), which is the supposed result of student aid that eliminates financial barriers to higher education. Without financial barriers, students would select institutions not on the basis of costs but on the basis of academic excellence. The cost of room, board, and tuition, the availability of institutional based (as opposed to direct) student aid, or the proximity of the institution to the student's home will no longer be the controlling factors in choice of college. Of higher priority will be the quality of the academic program, the general educational goals of the institution, the diversity of programs offered, and the general makeup of the student body.

As students have more freedom of choice, they will have more influence on the operation of their institution. The student will become increasingly concerned about how much education is being received for the dollar, and institutions accordingly will have to be more concerned about the efficiency and effectiveness of their operation. Consequently, for institutions to attract students they will have to become more responsive to their students' educational needs. Those institutions that do not respond or cannot produce with as great efficiency and effectiveness as others would not be patronized and

would eventually fail (Krugoff 1969; Wiseman 1969; Owens 1970; Roose 1970).[1]

Preservation of Diversity

A third major goal of student aid is that it should be a satisfactory delivery system for transfer of public funds to private institutions to preserve the diversity that has characterized higher education in this country. By indirect aid to private institutions through student aid programs the controversial issue of public funds directly supporting religiously affiliated and other private organizations is minimized. It also lessens the criticism about public funds aiding private institutions by allowing the consumer, i.e., the student, to decide on his own how these public funds should be distributed. Thus, by promoting free access and reasonable choice student aid also helps to support the diversity of higher education.

This goal has received support from many educational spokesmen. Joseph Boyd, Executive Director of the Illinois State Scholarship Commission, comments:

> A common thread in all development [of aid programs] is to provide dollars to permit the financially needy student to attend the college of his choice without designating a specific vocational future. . . . State programs not only permit college going to those who might be financially able to attend, but also significantly affect college choice. Freedom of choice and preservation of diversity in higher education have motivated the large and comprehensive state programs (Boyd 1969, pp. 5-6).

The Task Force of the National Council of Independent Colleges and Universities has set forth "A National Policy for Private Higher Education." In it the entire range of public support for private higher education was elaborated. All of their positions encompass the general principle that "the private sector of higher education is enormously valuable to the American society and is an influential complement to the public sector. Policymakers in both state and fede-

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[1] This market model for students has been severely criticized as not reflecting reality, in that many conditions that exist now, and will likely exist in the future, prevent this market model from being realized. These conditions are: (1) lack of institutional articulation of goals, objectives, and services makes it impossible for a student to make rational educational decisions; (2) the availability of student aid is not now nor will be sufficient enough to allow students to have full access and full choice; and (3) the organizational structure of an institution, especially the process of decentralized decision making, prevents immediate institutional response to the demands or desires of their student applicants (Horobin, Smyth, and Wiseman 1969; Johnstone 1972; "The New Depression . . ." April 16, 1973; Leslie and Johnson 1974).

ral governments should give increasing attention to preserving and strengthening private higher education" (A National Policy for Private Higher Education 1974, p. 5). For this reason the advocates of public assistance for private higher education oppose program regulations that would prevent students from being able to attend a private institution.

Many state master plans or reports of statewide coordinating agencies have also given support to private higher education through goal statements on student aid programs. Typical of these statements are the following two quotations:

> Resources and needs of the private sector of higher education are an integral part of the Board's activity in planning and coordinating the Texas Higher Education system. Tuition equalization grants program, enacted by the sixty-second legislature, authorized the issuance of state funding grants to needy Texas students attending accredited independent colleges and universities in the state (Coordinating Board, December 1973, p. 9).

> The states interest in postsecondary education must be more pervasive than an interest in maintaining public institutions. In providing that a state scholarship recipient may attend either a public or private higher education institution in Minnesota, the 1967 legislature also recognizes the fact that the state can appropriately provide postsecondary education opportunities for its residents in other ways (Minnesota Higher Education Coordinating Commission, January 1973, p. 45).

Recruiting Device

While not as prevalent now as in the past, institutional student aid is still used as a competitive recruiting device *(Handbook for Financial Aid . . .* 1973). The institutions have discovered that a minimal scholarship can attract students away from institutions that offer little or no aid. A small investment of scholarship funds attracts students who have to pay the major part of their educational expenses. This form of discounting the cost of higher education is most generally practiced in times when there is underutilization of college facilities and resources (Fife 1975).

Summary

Many objectives have been given by various study commissions for the increased effort to fund aid programs. The goal mentioned most frequently is the promotion of equal educational opportunity. To achieve this goal, three basic objectives must be met. The programs should provide the financial means to achieve (1) equal access, (2) reasonable choice, and (3) stable funding over time to permit the student to pursue his education to the fullest. If the student is provided

with sufficient funds to achieve these goals, the educational marketplace is enhanced. The student now will base his educational decisions not on finances but on academic considerations. With the free flow of students to the educational marketplace encouraged, the student has sufficient freedom to rationally choose the institution he feels will give him the best education, whether public or private. In this way, private institutions gain additional support through student aid systems. Furthermore, institutional aid programs can be used not only to provide *additional* aid to students but also can help the "near needy" student who, although not qualifying for state or federal programs, with this help may be able to attend the institution of his choice.

Growth of Student Aid Programs

The egalitarian goals set for student aid programs necessitated a new source and delivery system for these programs. It was appropriate that the institution be the originator of the student funds when aid was awarded with the intent of attracting the academically, artistically or athletically superior student to enhance an institution's reputation for having such students. However, new sources of funds had to be developed when the goal of student aid shifted from awards that benefitted the institution to awards designed to help the financially needy student attend an institution of his choice. Since this impetus to change the use of financial aid sprang from society, it was not surprising that the new source of aid should be from public tax funds. In the view of the Carnegie Commission, "Equality of opportunity . . . is a national promise and the federal government has a special responsibility to aid higher education to carry out this promise" (*Full Text of* . . . December 13, 1971, p. 6).

Federal Effort

Over the last decade the federal government has become the single largest source of student aid. In 1975 more than seven million student awards were granted totalling over $6 billion.[2] These programs can be grouped into four categories, based on the type of student they are intended to aid: (1) aid awarded to individuals as partial compensation for time spent in the armed services; (2) aid granted under the Social Security program; (3) aid based on student financial need; and (4) aid granted to stimulate student attendance in specific program areas.

Veteran Benefits—The largest federal student aid program both in terms of dollars involved and students aided is the G.I. Bill, which was funded at $3.0 billion for fiscal year 1975 and which aided some 2.5 million veterans. The 1976 Veteran's Administration budget includes $4.1 billion for education and training benefits ("Higher Education and National Affairs," Feb. 7, 1975, p. 12).[3]

[2] It should be noted that the number of individuals aided is considerably less than the total student awards because many students received more than one form of federal sudent aid.

[3] At the time of the writing of this monograph, President Ford has requested that the G.I. Bill be phased out, i.e., new benefits will no longer be available, although those that qualified in the past will receive their remaining benefits. Congress appears to be acting favorably on this request.

The period of time that a veteran may use the award is based on a calculation of time spent in the armed services. The amount of the monthly benefits is calculated according to the number of courses taken and the number of dependents the veteran has. The size of the awards is not based on a calculation of the veteran's financial need nor is it based on the educational expenses incurred.

Social Security Educational Benefits—Another large student aid program that is not often considered as such is the Survivors Benefit Program of the Social Security Administration. Benefits paid to students under this program totalled $856 million in fiscal 1975. The amount of award the individual receives is calculated according to a percentage of the social security benefits for which a family qualifies and is not based on any consideration of the educational expenses incurred by the student. While there is an implicit need element in this program, that is, awards are granted only to dependents of families that have qualified under the Social Security program, the awards themselves do not directly take into account any of the educational costs. Therefore, a student attending an inexpensive community college would receive the same benefits as one attending a more expensive state university or private institution.

Need-based Student Aid Programs—There are six federal need-based student aid program (see Tables 1 and 2). A need-based program determines the size of the award according to the gap between the student's educational expenses and financial resources. These programs can be classified, according to their delivery system as non-institutionally-based programs and institutionally-based programs.

Noninstitutionally-based programs grant awards directly to the student. The three federal aid programs in this category are the Basic Educational Opportunity Grant (BEOG), State Student Incentive Grant (SSIG), and the Guaranteed Student Loan Program (GSLP). The Basic Educational Opportunity Grant Program authorized in the 1972 Amendments to the Higher Education Act of 1965 is considered to be the cornerstone of the Federal student aid program. In FY 1974, its first year of operation, the BEOG program received $122.1 million. By FY 1976, $715 million had been appropriated for the BEOG program and another $300 million apparently will be added, bringing the total to $1.015 billion.

The State Student Incentive Grant Program provides federal money to students who are eligible for state need-based scholarship programs. Eligible state programs are those that equally match the available federal funds with new state scholarship aid. This program has grown from $19 million in FY 1974 to $44 million in FY 1976.

Table 1. Office of Education Student Financial Aid Expenditures for selected fiscal years [thousands of dollars]

Student Aid Programs	1960	1966	1970	1972	1973	1974	1975 (appropriated)	1976 (appropriated)
Supplemental Educational Opportunity Grants			142,577	167,600	183,197	210,300	240,000	240,000
Basic Equal Opportunity Grants					122,100	475,000	660,000	715,000
Work-Study		30,644	170,535	250,600	350,100	270,250	300,250	390,000
Insured Loans*			98,330	201,321	206,498	310,000	382,400	452,000
Student Loan Insurance Fund*			2,325	26,589	43,279	89,000	197,600	201,787
National Defense/Direct Student Loans	40,326	177,394	194,520	287,163	287,075	293,000	321,000	321,000
Incentive Grants for State Scholarships						19,000	20,000	44,000
Total	40,326	208,038	609,825	934,670	1,202,892	1,677,250	2,131,950	2,374,537
Percent increase year to year		416	193	53	28	39	27	11
Cumulative percent increase 60-76		416	1,412	2,217	2,883	4,059	5,186	5,788

Source:

FY 1960-73: W. Vance Grant and C. George Lind, *Digest of Educational Statistics: 1974 Edition*. Table 142, pp. 131-33.

FY 1974: *Higher Education and National Affairs*, June 28, 1974, p. 1.

FY 1975 and 1976: *The Chronicle of Higher Education*, September 15, 1975, p. 3.

* See Table 2 for amount of loan funds available.

Table 2. Guaranteed Student Loans Source, Number of Awards, and Total Funds Available for Selected Fiscal Years*

Program	1966-69	1970	1972	1973	1974	1975
States						
Number of Awards	1,350,296	556,509	556,597	489,201	430,673	484,606
Dollar Amount	$1,644,349	495,871	594,084	543,907	527,776	673,156
Federal						
Number of Awards	331,040**	365,387	691,874	599,085	506,854	504,726
Dollar Amount	$284,162**	353,788	780,164	654,616	611,651	661,292

Source: U.S. Office of Education, 1975.
* in thousand of dollars
** for fiscal years 1968-69

Guaranteed Student Loans are usually classified as a noninstitutionally-based program, although there are a number of institutions that participate in this program. The federal government assists the efforts of individual banks to make interest subsidized and nonsubsidized loans to students through its own program and supports a program to aid state guaranteed loan programs. The state and federal programs guarantee loan repayments. In FY 1976 the cost for interest subsidies of this program was over $450 million, with an additional $200 million used for repayment of loan defaults. Through this program a total of over 989,000 students received over $1.3 billion in loans in FY 1975.

Institutionally-based programs provide awards to students through an institution's student financial aid office. The amount of money the institution has available for these programs is determined by an estimate of the total financial need of the institution's student population in relation to the needs of other institutions located in the same state and according to the amount of institutional money available to match federal money. Obviously, the total amount of money appropriated for each aid program determines, to a degree, the amount of funds an individual institution will receive. The four programs that can be categorized as institutionally-based are: Supplementary Educational Opportunity Grant (SEOG), National Direct Student Loan (NDSL), and College Work-Study Program (CW-SP). For fiscal 1976 the Supplementary Educational Opportunity Grant Program (SEOG) has been funded at $240 million, an estimated 347,000 students being aided; the College Work-Study Program (CW-SP) has been funded at $400 million, an estimated 870,000 students being

aided; and the National Direct Student Loan Program (NDSL) has been funded at over $320 million, an estimated 728,000 students being aided.

Student Assistance for Specific Graduate Programs—This fourth and last category of federal student aid comprises those programs developed to encourage students to further their education in specific areas. For example, in the U.S. Office of Education's appropriations for FY 1976 more than $30 million will be allocated for such special areas as language training, area studies, college teacher fellowships, public service training, fellowships for the disadvantaged, and mining fellowships. Since most of these programs are primarily designed to encourage individuals in specific occupations to gain further training or to direct students into specific careers, they do not usually base award eligibility on financial need. Another large portion of this type of student aid is a secondary result of the federally-sponsored research area. Most university based research projects include funds for graduate student aid.

State Student Scholarship/Grant Programs

State funded student aid programs evolved more slowly than federal ones. However, during the last five years the number of states offering student aid programs nearly doubled and now includes 42 states that constitute 94.1 percent of the U.S. population (see Table 3). During this period, the average student award increased from $445 to $576 (see Table 4). Part of the most recent expansion is due to the new Federal-State Student Incentive Grant Program. Under this program, states may qualify for federal funds on a fifty-fifty cost-shared basis for new student awards. This program was purposely designed to encourage states to increase their student aid effort.

One of the difficulties in discussing and generalizing about state student aid programs is the unique and varying nature of the higher education enterprise in each state. Many states have developed aid programs to serve the peculiar needs and purposes of their higher education community. As a result, there is no such thing as one type of state scholarship/grant program. For example, in 1974-75 the 39 states having student-aid, need-based programs had 61 separate programs qualifying for State Student Incentive Grant funds. These states also have numerous student aid programs that do not qualify for SSIG funding because they are not based on student financial need. Of the states that do qualify for SSIG funding, more than 40 percent also have some type of academic standard a student must meet to qualify for an award.

Table 3. History Since 1969-70 of State Funded, Need-Based Undergraduate Scholarship/Grant Programs

Year	No. of States/Territories	No. of Enrolled Winners*	Dollars Awards* (Millions)
1969-70	19	470,800	$199.9
1970-71	21	535,200	236.3
1971-72	23	604,000	268.6
1972-73	29	661,700	315.5
1973-74	31	733,300	364.2
1974-75	37	813,100	440.8
1975-76	43	868,500	496.9

*All figures except '75-76 are known enrolled winners with award dollars. '75-76 are best estimates. All figures are rounded.

Source: Joseph D. Boyd, *National Association of State Scholarship Programs, 7th Annual Survey 1975-76 Academic Year*, p. 2.

Table 4. Summary Statistics State Need-Based Competitive and Noncompetitive Financial Aid Programs 1971-74

Characteristics	1971-72	1972-73	1973-74	1974-75
Number of states with programs	21	29	31	37
Number of enrolled winners	603,999	661,654	733,267	813,088
Dollar payout	268,613,376	315,462,476	364,204,424	440,771,000
Average award amount	445	477	497	542
Percent increase in average award	—	7.1	4.2	9.0

Source: Joseph D. Boyd, *1973-74, 1974-75, and 1975-76 Undergraduate State Scholarship/Grant Programs.*

Table 5 lists some of the characteristics of these programs. While most of these programs allow aid recipients to attend four-year and two-year public and private institutions, they do not on the whole provide aid for part-time students, students attending proprietary institutions, or out-of-state institutions.

Table 5. Characteristics of Funded State Student Incentive Grant Financial Aid Programs 1974-1975 (by number of programs)

Program Characteristics	Yes	No
U. S. Citizenship required	39	22
Limited to undergraduates	51	10
Academic qualification standard for eligibility	26	35
Award limited to tuition and fees	29	32
Awards usable:		
for part-time students	13	48
at out-of-state institutions	14	47
at for-profit institutions	13	48
at two-year colleges	50	11
at public institutions	52	9
at private institutions	56	5
Students once rejected eligible in other years	42	19

Source: Joseph D. Boyd, *1973-74* and *1974-75 Undergraduate State Scholarship/Grant Program.*

a. There are 39 states offering 61 different financial aid programs that qualify for SSIG funds.

b. Some programs will accept more than one need-analysis system.

Nonpublic Sponsored Student Aid Programs

Non-state and non-federal sources of student aid still make up a large percentage of the awards available. It has been estimated by the National Task Force on Student Aid Problems (1975, p. 11) that more than $810 million is available for student aid from non-state and non-federal sources. Of this amount, $760 million originates directly from institutions in the form of scholarship-and-grant programs, employment programs, and loans. Other private sources of student aid account for about $50 million.

Table 6. Student Aid Funds 1974-1975 (millions of dollars)

Institution Based:		
National Direct Student Loans		321
College Work-Study Program		300
Supplemental Educational Opportunity Grants		240
Institutional Scholarship and Grant Programs		450
Institutional Employment Programs		280
Institutional Loans		30
Law Enforcement Education Programs and Loans		40
Bureau of Indian Affairs Grants		23
Nursing Loans and Grants		44.5
	Subtotal	1,728.5
Student Based:		
Basic Educational Opportunity Grants		660
State Scholarship Incentive Grants		20
Guaranteed Student Loans		1,334
Other Private Sources		50
State Scholarship and Grant Programs		456
Social Security Benefits		856
Veterans Benefits		3,200
	Subtotal	6,576
	Total	8,304.5

Summary

There is a vast array of financial aid programs available to students. The sources of funding for these programs may be private or public; they may be available through or external to an institution; the maximum amount of the award may be small or may be designed to cover all educational expenses that cannot be met by the student; and the aid may be in the form of gifts, as in scholarship and grant aid, or may have to be repaid, as in the form of loans. The great variety of student aid programs available from many different sources obscures the fact that student aid now constitutes a significant amount of the funds flowing into higher education. Table 6 lists the major student aid programs according to their delivery system. These are delineated as *institutionally-based* programs, whose funds are distributed through financial aid offices of individual institutions to students at those institutions, and *student-based* programs that allow

a student to take the funds to any approved institution. During the academic year 1974-1975, more than $8.3 billion were available in student aid funds. This amount is a conservative figure, since data were not available for aid programs such as categorical state student aid, some private-source aid programs, and federal aid for graduate assistants in federally-sponsored research projects.

The importance that student aid plays in financing higher education can be seen by comparing it with income received by all higher education institutions. It is estimated that for the year 1974-75, total institutional income was $35 billion. Of this income, approximately $8.4 billion was received through student tuition and fees. Student aid available equals approximately 24 percent of all institutional income. Since student aid is awarded to meet noninstructional expenses as well as instructional expenses, the institutions obviously will not receive all of the $8.4 billion available. Even so, it is clear that student aid has grown to be a major factor in the financing of higher education.

Access to College

What impact student aid funds have on students and institutions will depend upon how effectively these funds are distributed. To have an effective distribution necessitates an understanding of what conditions influence the basic goals set for aid programs. Of all the student aid goals that have been developed, two goals—access and choice—are the most critical. The reason for this is if all students who want to attain some form of postsecondary education are provided the necessary resources to do so, and if these resources are distributed in a manner that will allow the student to attend the institution for which he qualifies and which he believes will provide him with the best education, then the other goals of free flow in the educational marketplace and the preservation of the diversity of higher education will be achieved. In addition, aid programs designed to insure that the highly qualified student is able to attain an education or to attract a student to a particular area of concentration must emphasize the goals of access and choice to be inclusive and effective. Conversely, aid programs that grant awards to students who can afford to attend without aid, or who do not want to major in a particular subject but are persuaded because of the size of the award, are not using the aid funds efficiently.

The questions that now must be answered are: What conditions affect the access and choice of a student and to what degree will student financial aid help to insure its accomplishment? To answer this question, this and the following chapters will examine research focusing on access and choice. Here the "condition of access" is defined as those conditions that motivate a student to want to further his education and then promote the student's participation in *some form* of further education. The "condition of choice" is defined as those conditions that motivate a student to want *a particular form* of education and then aid the student in the achievement of that education. The literature essentially is divided into two categories: (1) studies that assume an economic perspective, and (2) studies that deal with noneconomic, primarily psychological and sociological, factors associated with access and choice (for example, student motivation, parental influence, peer influence, and academic ability).

The Economic Perspective on Access•

Studies conducted from the economic point of view differ in significant ways from studies that assume a psychological or sociological point of view. Economic studies have been conducted largely by economists. The conceptual or theoretical framework applied almost universally has been economic demand theory. This theory assumes that students or potential students determine whether to attend college on the basis of the relative economic return perceived to accrue to the college goer. As stated by Campbell and Siegel (1967):

> The investment approach to the theory of educational demand asserts that an individual will purchase a college education if the present value of the expected stream of benefits resulting from education exceeds the present cost of the education . . . (p. 482).

Psychological and sociological studies are more likely to have the discovery of the factors relating to the college-going decision as their primary purpose. Economic studies tend to assume the appropriateness and applicability of demand theory. This is an important distinction for policy purposes. Although both types of studies are useful, they can lead to different policy directions.

The major data sets arguing for the relevance of the economic perspective to the college access question are the statistics concerning the college-going population. Table 7 shows that college attendance is related directly to family income. Generally, the higher family income, the greater the likelihood that an 18-to-24-year-old member of that family will attend college (The Chronicle of Higher Education, October 6, 1975, p. 6). When ability considerations are added, the patterns still hold (see Table 8).

It can be seen from these tables that family income and presumably lack of financial resources are related strongly to postsecondary access. These relationships generally have been given in arguing for the present national postsecondary policy of providing direct subsidies to low-income students, since it is believed that such subsidies will increase enrollments among low-income students.[4] More

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• The sections of *The Economic Perspective* and *Noneconomic Factors of Access* are based upon the contributions of Larry L. Leslie, Professor, Program Chairman and Center Research Associate, Center for the Study of Higher Education, The Pennsylvania State University.

[4] See, for example, the Committee for Economic Development, *The Management and Financing of Colleges* (1973), and the Carnegie Commission on Higher Education, *Higher Education: Who Pays? Who Benefits? Who Should Pay?* (1973).

Table 7. Families with Members 18 to 24 Years, Full-Time College Attendance, and Family Income (October 1971)
(In thousands: civilian noninstitutional population)

Family Income	Total Families with Members 18 to 24 Years	With Members in College Full Time	
		Number	Percent
Total	9,644	3,688	38.3
Under $3,000	731	102	14.0
$3,000-$4,999	935	202	21.6
$5,000-$7,499	1,310	379	28.9
$7,500-$9,999	1,448	485	33.5
$10,000-$14,999	2,382	1,004	42.1
$15,000 and over	2,129	1,255	58.9
Not reported	709	261	36.8

Source: *Current Population Reports, Special Studies, Characteristics of American Youth: 1972* (Washington: U.S. Department of Commerce, Bureau of the Census, 1973), Series P-23, Table 17, p. 20.

than a dozen economic studies have been completed that examine the assumption that lack of resources is a primary determinant of collegiate enrollment and that test the relationship between student enrollments in postsecondary education and the income of the student's family and the price of higher education.

One of the earliest studies was by Campbell and Siegel (1967), who examined four-year college enrollment data for the period 1919-1964. The income measure was real; disposable income and the price measure was a tuition index adjusted for inflation. Campbell and Siegel found that a 10 percent increase in family income had been associated with a 12.0 percent enrollment increase, and that a 10 percent price (tuition) increase had resulted in enrollment decreases of 4.4 percent (pp. 482-494). Others (Galper and Dunn 1969; Hight 1970) have reanalyzed the same data and found similar relationships, although the estimated strength of the associations has varied.

Table 8. Number and Percent of High School Graduates Entering College, Full or Part Time During the Year Following Graduation, by Ability and Socioeconomic Status (SES)

Ability and socioeconomic status	No. high school graduates	Number who enter college		Loss	
		Number	Percent	Number	Percent
High ability quintile (100 percent to 80 percent):					
1. High SES	203,000	165,000	82	37,000	18
2.	153,000	102,000	66	51,000	34
3.	122,000	67,000	55	55,000	45
4. Low SES	60,000	22,000	37	38,000	63
Total	538,000	356,000	66	181,000	34
2nd ability quintile (80 percent to 60 percent):					
1. High SES	130,000	89,000	69	41,000	31
2.	143,000	72,000	50	71,000	50
3.	148,000	57,000	38	91,000	62
4. Low SES	94,000	24,000	25	70,000	75
Total	515,000	242,000	47	273,000	53
Subtotal	1,053,000	598,000	57	454,000	43
(1 to 2 quintiles of ability)					
3rd ability quintile (60 percent to 40 percent):					
1. High SES	94,000	53,000	56	41,000	44
2.	135,000	45,000	33	90,000	67
3.	159,000	36,000	23	123,000	77
4. Low SES	148,000	20,000	14	128,000	86
Total	536,000	154,000	29	382,000	71
Subtotal	1,600,000	752,000	47	848,000	53
(1 to 3 quintiles of ability)					
4th ability quintile (40 percent to 20 percent):					
1. High SES	52,000	20,000	38	32,000	62
2.	114,000	25,000	22	89,000	78
3.	164,000	27,000	16	137,000	84
4. Low SES	169,000	16,000	10	153,000	90
Total	499,000	88,000	18	411,000	82
Subtotal	2,100,000	839,000	40	1,261,000	60
(1 to 4 quintiles of ability)					
5th (low) ability quintile (20 percent):					
1. High SES	36,000	10,000	27	26,000	73
2.	75,000	11,000	15	64,000	85
3.	133,000	17,000	13	116,000	87
4. Low SES	263,000	20,000	8	243,000	92
Total	507,000	58,000	11	449,000	89
Grand Total	2,600,000	900,000	35	1,700,000	65
(all ability quintiles)					

Source: Project Talent, 5-year follow-up surveys.

Using data from a small sample of eligible 1965 University of California freshmen, Hoenack (1971) also found results consistent with those of Campbell and Siegel. Based upon $100 and $400 changes in annual direct outlay costs for the lowest, highest, and total income quartiles, Hoenack predicted the greatest enrollment effects for the largest price changes (–$400 or +$400) and for the lowest income quartile. Even when the costs of the competing California State College system were hypothetically raised by two-thirds, the same patterns obtained, although to a lesser degree (pp. 302-11).

Studies completed more recently (but based generally upon data from comparable years) have yielded the same pattern of results. Family income has been seen to be postively associated and college price has been seen to be negatively associated with college attendance. For example, Corazzini et al. (1972) utilized Project Talent and separate Boston area data to conclude "that tuition and unemployment, empirical counterparts of the price variable, are statistically significant determinants of total enrollment . . . and a decrease of $100 in tuition in 1963 is associated with 2.65 percent increase in the nation's enrollment. . ." (p. 47).

Some of the more recent analyses combine demand theory with decision theory and include additional variables, recognizing that family income and college price alone do not explain an acceptable portion of the variation in collegiate attendance. These studies are similar to the ones discussed above, in that their data are somewhat outdated, being based primarily on the 1966 SCOPE (School to College: Opportunities for Postsecondary Education) study.

One of the most important studies using economic analysis and access variables was by Radner and Miller (1970) who included the variables of student ability and the "quality" or "selectivity" of the alternative institutions in addition to family income and the "out-of-pocket cost of attendance." Although their response rate raises validity questions, the sample of 191 responses to the SCOPE study has been considered by many to provide an adequate and appropriate data base for analysis. Radner and Miller found that the four variables—family income, actual expenses, student ability, and institutional reputation—affect the attendance decision.

The model constructed by Rand-Mundel ("Financing Post-secondary . . ." 1974, p. 90) also used SCOPE data plus data from the American Council on Education. The model added to the Radner and Miller variables a consideration of commuter-resident status, institutional type (public-private), an expanded institutional quality dimension, and institution "quality of life" (coeducational or single

sex and dormitory capacity). Since the SCOPE data base was used, it is not surprising that the general findings of Radner and Miller discussed above were supported in this study.[5]

Studies from the economic perspective add importantly to the access literature. They show clearly that access is affected by postsecondary costs and by student and family income. Recent studies confirm that variables such as commuting distance and institutional quality play major roles in a student's decision to attend an institution. The addition of noneconomic variables to the price-income-access equation is a natural bridge to a consideration of the psychological and sociological factors involved in the access question.

Noneconomic Factors in Access

This section includes studies that often set out to determine causal reasons for postsecondary attendance or nonattendance rather than to establish simple relationships. As such, they are based less upon clear conceptual frameworks than upon simple hypotheses, are less heavily quantitative than the studies of the previous section, and are more exploratory than definitive. Studies in this section often tend to derive their answers from direct techniques, whereas the studies of the previous section used existing data bases to infer possible reasons for postsecondary attendance or nonattendance. Often, individuals and their families are asked to identify their aspirations and expectations, vis-à-vis postsecondary attendance, and the reasons for them. Because of the varying approaches taken, the variety of populations sampled, and the several frameworks utilized, it is hardly surprising that the findings fail to generate totally consistent conclusions. Nevertheless, the pattern of findings is generally consistent with what is known about the *effects and correlates of social classes.*

Sociologists tend to approach the analysis of access or college-going decisions though theories of social stratification. Such decisions are viewed as being made from a complex interplay of a number of demographic and psychological variables rather than from a single condition, such as the availability or lack of financial resources.

Perhaps the most thorough and sophisticated study illustrating the application of social class theory was conducted by Sewell and Shah (1968), who collected data on 10,318 seniors of the 1967 graduating class of public, private, and parochial schools in Wisconsin. In the final report data were obtained from respondents, school authorities,

[5] A discussion of this and other models is available in the Education Commission of The States Conference Handbook, *Financing Postsecondary Education: Policy Development and Decision Making* (1974).

and a statewide testing program. The researchers set out to separate and define the numerous highly related variables associated with social class.

> The question is often raised as to what it is about social class that accounts for this relationship [the relationship between social class and educational and occupational aspirations] and through what intervening variables this relationship may be further explained. In other words, the need is emphasized for specifying the variables by which the social class characteristics of individuals are translated into differences in aspiration and subsequently into achievement (p. 560).

Although the sample was limited to one state, the findings were among the most definitive yet produced. Sewell and Shah's analyses indicated that the relationship of parental encouragement to college plans was stronger than either that of (definitional) socioeconomic status or intelligence, although all of these exerted important independent effects (p. 563). Parental encouragement was also found to be a powerful intervening variable between class background and the child's intelligence and his or her educational aspirations. Because much of the variance in college plans among youth of the various socioeconomic classes is not explained by any of these variables, Sewell and Shah concluded that economic resources must be another important factor (p. 572).

Berdie and Hood (1966), in a study somewhat similar to that of Sewell and Shah, sampled 3,817 Minnesota graduates of the high school class of 1961. They, too, considered a host of sociological variables plus several of a psychological nature. Differences in findings may be due in large part to variations in analytical techniques employed. Berdie and Hood reported the following: the two variables found to be most highly correlated with college plans were college aptitude test scores and high school percentile ranks. These ability measures were followed by parents' educational levels and the number of books in the home.

Findings of Cowhig and Nam's 1959 study for the Census Bureau were inferred to two million high school seniors. Parents rather than students were interviewed in a sizeable number of cases. The largest percentage of high school seniors (or their parents) who said they were not planning to attend college (34.5 percent) listed "no desire to go" or "poor grades" as the reason. The next largest group (25.7 percent) listed "lack of money" or "needed at home." Marriage or military service was listed by 19.7 percent and taking a job was listed by 12.0 percent (pp. 9-10 and Table 12, p. 25).

In a follow-up study in 1960, Cowhig and Nam checked on the college attendance patterns of the 1959 senior class. They found that having college plans in the senior year was most closely related to later attendance, followed by the type of high school curriculum in which the student was enrolled and by two ability measures. Family income was shown to be the next most important indicator, followed by another socioeconomic variable, occupation of household head (pp. 7-9 and Table 16, p. 17).

Like the Cowhig and Nam surveys, a study by the State University of New York's Bureau of Research in Higher Education and Professional Education ("A Longitudinal Study . . ." 1969 and 1970) attempted to follow high school students into their college years. Beginning with a sample of 5,175 high school seniors in 101 randomly selected New York State high schools, the Bureau found that parents exerted the greatest influence on students' future plans and that the financial barrier did not seem to prevent enrollment (pp. 10-11). In Phase II, the Bureau confirmed many of the earlier findings and discovered that students generally misjudged the costs of higher education and often had to change to a college that required less financial outlay. Some students changed from resident to commuter status while others integrated a part-time job with college attendance. Also considered as viable options were enrollment in public instead of private institutions and in two-year rather than four-year colleges (p. 24).

In *Beyond High School* (the SCOPE study), Trent and Medsker (1968) reported on their sample of approximately 10,000 high school seniors from the midwest, California, and Pennsylvania. They identified the same variables discovered by Berdie and Hood but reversed the order of importance. Their data showed that social status had more bearing than academic ability. Seventy-five percent of students from professional families entered colleges in 1959, compared with 25 percent of those from homes of semiskilled and unskilled workers. There was also a strong relationship between the attendance decision and parent's educational level. Among the college attenders, 33 percent of the fathers and 32 percent of the mothers had attended college, while the figures were 11 percent and 8 percent, respectively, for the nonattenders (p. 25). College attenders and nonattenders differed markedly in academic motivation and parental encouragement. As high school seniors, the majority of those who would later attend college reported that a college education was extremely important to them. Only 12 percent of those with no college plans so reported. Further, the college attenders were more than twice as likely as the nonattenders to have been encouraged to enroll. Peer influence also

was shown to be important. More than twice as many of those who would later attend college, as opposed to those who would not, reported close friends who were planning to continue their education. Eighty-four percent of those who would not attend reported having no friends with college plans (p. 26).

In summarizing their findings, Trent and Medsker, reported:

> In the final analysis it was not lack of finances that appeared to be primarily related to failure to attend college, but lack of interest. Apart from ability, the values of the youths and their parents seemed to figure more than finances in the relationship between socioeconomic status and college attendance. These values appeared to be major contributors to motivational differences (p. 259).

In a later report of the SCOPE five-year longitudinal study of high school students, Tillery and Kildegaard (1973) concerned themselves with student perceptions of factors that had led to their nonattendance or that could lead to discontinuing college attendance. In summarizing six previous studies the authors considered important, Tillery and Kildegaard identified the lack of parental encouragement or parental disinterest plus financial problems or the absence of information about financial aid, lack of motivation, low ability, military service (for boys), and marriage (more for girls) as reasons for discontinuing education (p. 43). They suggested that it is difficult to assess the importance of the lack of financial resources because this variable interacts with factors such as motivation (p. 143).

With this background, Tillery and Kildegaard brought unusual insight to their findings (pp. 157-162). They noted first that the educational aspirations of high school seniors were influenced by economic factors, but they observed it was the college bound aspirants—not the noncollege groups—who perceived lack of finances as a barrier to higher education. Although the prospective college students perceived their possible vulnerability to economic difficulty, they nevertheless aspired to college. Tillery and Kildegaard concluded that "the present findings lend some support to the notion that economic factors at the turn of this decade are not necessarily primary determinants of college-going behavior" (pp. 159-160).

Folger, Astin, and Bayer (1970) cited some 30-odd studies completed in the 1940s, and 1950s, and stated that "nearly all studies have found academic aptitude and previous school performance to be of prime importance, and also that sex and socioeconomic background play a significant role" (pp. 153-154). With these studies as background, Folger et al. considered 38 variables of the 1960 Project Talent study

of high school graduates. They found that "rougly half the total variance in college attendance was accounted for by the 38 variables . . ." They reported that high school seniors' commitment to college was the best predictor of college attendance, followed by ability variables and socioeconomic background variables. The "college commitment" variables included college plans, parental encouragement, and encouragement by friends.

In a survey of aid recipients in Pennsylvania, New York, New Jersey and California (Fife 1975), it was found that more than 50 percent of all students receiving aid from three out of the five programs indicated that without aid they would not have attended a postsecondary institution. Further, the recipients were likely to represent the blue-collar stratum—with the exception of the lowest socioeconomic level, the semi-skilled and unskilled workers. Also, in four out of five programs more females were awarded aid than males, and all aid programs had a higher percentage of female award recipients than the percentage of females attending college as a whole. The researchers concluded that these aid programs were a significant factor in the recipients' ability to continue their education.

In a longitudinal study of Illinois state scholarship recipients similar results were reported (Boyd and Fenske 1975). Of the total number of scholarship respondents in 1967, 17.7 percent indicated that without aid they would have been unable to go to college, and by 1973 this had increased to 37.6 percent. For grant respondents the percentages were 24 percent and 58.1 percent, respectively.

It should be noted that the results of these two studies are pertinent only to a student population that is already committed to attend some form of postsecondary education. These studies did not measure the dimension of impact of financial aid on students who had not committed themselves or who originally did not aspire to further education.

In a summary of the research in this area, with emphasis on research funded by the U.S. Office of Education, Berls (1969) reported to the Joint Economic Committee of Congress:

> The available evidence, then, on obstacles to college entrance is conflicting and not easy to place in a pattern or trend. Objective factors such as lack of money do not seem to be of overwhelming importance, and the factors of inadequate academic background and lack of interest combined exceed lack of finances as a reason in all three studies [reviewed]. Of course, offers of financial aid may decrease the number who cite lack of interest as the reason for not planning on college. Motivation to enter college is an intangible item affected by a great many factors in a high school student's life. One of the most important of these factors is the amount of encouragement he receives from his parents (p. 154).

A review and summary by Douvan and Kaye (1967) provides a suitable and preceptive conclusion to this section:

> We do not know that family traditions and values respecting education are independent of family income; indeed, we doubt that they are. But the vision of colleges as a means of improving one's lot must be primarily a feature of lower-middle and lower-class youngsters, and so again mobility appears to be a factor of some importance beyond the operation of simple economics (p. 200).

Supplementing their review with data from extended interviews with 1,045 boys and 1,925 girls of school age, Douvan and Kaye conclude:

> For many youngsters from upper- and upper-middle-class homes, the question of going or not going to college probably never arises. Continuing in school beyond high school involves no conscious decision; the child from his earliest years is taught that following high school comes college. . . . Most middle-class parents see college serving several purposes; it is to provide the young person vocational preparation, a general intellectual broadening, and an opportunity to grow and develop for another four years, to grow in knowledge and skill, and also in emotional stability and autonomy. . . . To young people of lower social status, the decision for college may be a more conscious and problematic form. On the borderline of economic ease one expects to find motivational factors most clearly distinguishing those who do and do not enter college. We have seen that for many of these less privileged youngsters, college represents the golden path to social mobility, the chance to increase their share of social and economic rewards (pp. 200-201).

Summary

The first major goal of student aid is to increase access to institutions of higher education. Essentially, there are two parts to this goal: (1) to provide access to individuals who have already decided that they want to go to college, and (2) to encourage qualified students to be more inclined to attend college. For the student that already is motivated to pursue some form of postsecondary education, the research clearly shows that financial assistance is an important factor in the ability to achieve their educational goals.

The research on what influence financial assistance has in motivating a student to desire a further education is less clear. Research has demonstrated that there are four major influences that affect a student's wish to continue his education. While the research is inconclusive about what factor has the greatest influence on the student, the various studies are conclusive that each factor plays a major role.

The first source of influence is the amount of support a student receives from his parents. The reasons behind parental support vary.

Generally, parental support is contingent on how parents evaluate the importance of further education in aiding their son or daughter to achieve the "good life." They ask such questions as, Will further education help their children gain a better job? Will it provide their children with social mobility? Also, ranking with the parents other concerns, Is further education within their financial capacity?

The second influence affecting a student's decision to continue his education is the student's own ability, academic potential, and general motivation. If the student has had a positive experience in high school and has achieved relative academic success, he or she is more likely to want to continue his or her education.

The third influence affecting student access is the financial strength of the student and his family. Financial strength is determined by parental annual income and assets, student income and assets, outstanding debts, and the number of dependents in the family. The degree of willingness of parents to sacrifice so their children may further their education also must be considered. While separate from the actual financial strength of a family, it does influence the amount of funds available to the students.

The fourth influence is peer support. Although not as strong an influence as parental support, peer pressure may encourage or discourage a student from wanting to go to college. As studies have shown, the more positive peer support, the more likelihood that a student will want to continue his education.

It can be concluded that financial considerations are only one of many factors affecting a student's desire or lack of desire to seek further education. However, while financial considerations may not be the one major motivating factor, the presence of financial need has been demonstrated to be a *limiting* factor. What extent the lack of financial strength has on influencing parental support and the student's general motivation is unknown. However, it is probably safe to assume that it is at best a neutral influence and in all probability it has a negative effect.

Choice of College

Like the question of access to college, the question of choice of college has been examined from both a financial or economic viewpoint and a noneconomic or psychological/sociological approach.* In setting the stage for a review of each of these approaches, it should be emphasized that the question of choice is totally contingent upon a positive decision on the question of access. In other words, a student first must have the means of motivation to go to *any* school—access—before a decision can be made concerning what *particular* school a student wants to attend—choice.

It is only recently that choice has achieved some parity as a goal along with access. The National Task Force on Student Aid Problems in March 1975 stated that both choice and retention were a primary purpose of student financial aid as well as access. Even more recently, Pesqueira (Fall 1975) in *The College Board Review* noted that access in not enough:

> Equal opportunity really is a two-faceted concept. That is to say, first, we should speak of access to and equity in postsecondary education in terms of rates and patterns of enrollment. Secondly, we should speak of access to and equity in type or levels of institutions. There are two dimensions vis-à-vis equality of educational opportunity in higher education—choice as well as access (p. 13).

The Economic Perspective on Choice

There are no widely known studies that have focused directly upon the economic rationality of student choice. Most of these studies have concentrated on the choice problem in general, with the question of student choice based on maximum economic return being only a subset of the larger studies.[6] It should be noted that for a student to base his educational choice on a return-on-investment basis, he first must have a clear understanding of the potential results of receiving an education at a particular institution. Without this knowl-

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[6] For a theoretical review of student choice and maximum economic return see Nollan, Stanley D., *The Supply and Demand of College Educated Labor*, Ph.D. Dissertation, University of Chicago, December 1974. ED 100 279; and Freeman, Richard and Holloman, J. Herbert, "The Declining Value of College Going," *Change* 11 (September 1975): 24-31.

edge, it is impossible for a student to compare the educational return value of various colleges.

The traditional economic approach defines a situation in which more than one postsecondary educational opportunity is created by relating the student's potential options and resources to the variety of choices of institutions. Within this framework, students theoretically make choices based upon perceived rates of return on different postsecondary education options. The theoretical activity underlying this process is that students consider both potential *costs* and potential *benefits* emanating from their selection and participation in the educational marketplace.[7]

The research findings about a student's *knowledge* of possible educational return from his institutional choice are inconclusive. Bower and Pugh (1975), in their survey of all high-school students in Indiana in the class of 1975, report that:

> There is little question what the single most popular reason is for a senior selecting a given school: It is "offers what I want to study"—this first choice was made by nearly 20,000 seniors (24.2 percent) . . . The next most popular choice, falling off to 9 percent of all seniors was "location near home." . . . All remaining reasons were chosen by fewer than 4 percent from all seniors in each case (p. 52).

However, in the four-state SCOPE study (California, Illinois, Massachusetts, and North Carolina), student's knowledge of what a school had to offer was minimal. In this study, twelfth graders were asked to indicate how much information they had about various colleges and universities. As could be anticipated, there was substantial regional variation in knowledge about institutions. For example, most students in the North Carolina sample indicated they *knew about* Duke University. The same comment was elicited from students about institutions in or near their state in the sample, including schools such as the University of California, Berkeley, and the Massachusetts Institute of Technology. However, when questions were asked about other well known institutions, such as Antioch College or Howard University, a very large percentage (58.5 and 62.8 percent, respectively) had never heard of them. In a subsequent question concerning their opinion of the quality of students accepted

[7] To be sure, economists of higher education include many factors in cost-benefit estimates. Most economists, for example, include not only direct cost of tuition, fees, and dormitory contracts, but also foregone earnings, cost factors related to the distance of the home community and the collegiate setting, and others. Benefit estimates may include status and prestige factors as well as future earnings.

at various schools, 74.8 percent indicated that they did not know in the case of Antioch College and 72.5 percent had a similar reaction about Howard University.

One approach when looking at the effects of student aid on choice is to examine the aid recipient's ability to attend the first-choice institution, that is, the institution he most wanted to attend and presumably believes will give him the best education. In the *College Student Grant Study,* conducted by Leslie and Fife (Fife 1975), aid recipients from Pennsylvania, New York, New Jersey, and California were asked if they were attending their first-choice school. Between 68.6 and 88.6 percent of the recipients responded affirmatively. While this does not necessarily indicate that aid by itself was the reason a student attends his first-choice school, it does indicate that the recipients were able to take their grant money *to* their first-choice institution. It is also noteworthy that of the students who indicated they were not attending their first-choice school, 40 percent gave other than financial reasons. According to Leslie and Fife, "while this percentage varies according to the program, it can be safely stated that only one-sixth or less of all recipients surveyed were unable to attend their first-choice school because of financial reasons" (Fife 1975, p. 23).

Another economic indicator of the impact of student aid on choice is the ability of aid recipients to attend institutions in the more expensive private sector when compared to the total college population's ability to do so. Supporting this point is a study by Boyd and Fenske (1975), who surveyed the Illinois State Scholarship Commission Monetary Award recipients in 1967-68, in 1970-71, and again in 1973-74. Analyses of the data in the original survey provided the following conclusions:

> As of August, 1970, an even 21 percent of all students enrolled in public and private Illinois colleges in the previous academic year had received notification of an ISSC monetary award for the present academic year. For public colleges alone, this percentage was 15.4; but for private colleges, the overall percentage was 34.5. A ranking of all 118 Illinois institutions of higher education whose students are eligible for ISSC awards, according to percentage that such awards are of total undergraduate enrollment, shows that only seven public colleges are in the top half (N=59) of this list. Furthermore, the highest 37 colleges in this ranking are *all* private, with the top-ranking six colleges all having more than 60 percent of their enrollees ISSC award recipients (Fenske and Boyd 1971, p. 105).

These authors concluded that if it were not for student aid, a large proportion of the private colleges, because of their relatively higher tuition and fees, would have been unable to attract these students.

The examination of trend data in this longitudinal study revealed a continuing increase over time in the number of students who indicated they were provided freedom of choice by the grant award, principally to select a private college or university. The longitudinal data also included a study of enrollment among types of colleges that would take place under the theoretical absence or withdrawal of the student financial award. Analysis of these data produced the following result:

> There was a strong tendency for enrollment shifts among types of colleges to include decreases in enrollment at private four-year colleges and universities, and a shift toward increased enrollments at public four-year and two-year institutions, particularly for grant students. As was shown clearly in the initial survey, the BSC monetary award has enabled many students to enroll at private colleges and universities with relatively higher costs. Unavailability of the award would evidently require them to change to a lower-cost public institution, or increasingly, discontinue college attendance (Boyd and Fenske 1975, p. 79).

In the *College Student Grant Study* (Leslie and Fife 1974) two approaches were taken in examining the impact of student aid on the ability of a student to attend a private institution. The percentage of recipients attending private institutions was compared with the percentage of all students attending private institutions. In all but one state the percentage of aid recipients equalled or exceeded the general state norms. In the case of two programs, more than three times the number of aid recipients attended private institutions than did the general college population (p. 661). The second approach was to compare the importance placed on student aid by recipients attending private institutions with recipients attending public institutions. This analysis involved recipients in the two sectors who indicated that they would either not be able to attend any postsecondary institution or would have to attend a less expensive institution without student aid. Three of the five programs surveyed showed a much greater percentage of recipients attending private institutions would have to change institutions or leave school than would recipients from public institutions. In the two states where this was not the case, one of the states had the nation's highest public school tuition cost, while the second offered the lowest mean award of any aid program studied (p. 665).

Noneconomic Factors in Choice

Like the research on access, there is a second group of studies that considers the problem of choice by using a noneconomic or psy-

chological/sociological research framework. Trent's review of the research literature (1970) did much not only to reveal the multifaceted nature of the college choice decision, but also to underscore the idea that it is a long-term process, beginning probably with the earliest acculturation of the child in the home. Trent points out that apparently only one major study, the SCOPE survey, was designed to trace the decision-making process regarding college as a developmental and sequential process. In general, however, most of the research has dealt with only one or a small number of individual factors. Trent indicates that most of the factors related to the decision of whether to attend college or not were also related to the matter of *which* college to enter. These factors include major indices of socioeconomic status, personality, intellective factors, environmental factors (such as the local availability of the college), motivational factors, and process factors (such as counseling efforts).

In the SCOPE survey twelfth graders were asked to indicate reasons why they might not achieve their post-high school educational goals (Tillery, Donovan, and Sherman 1966). Only 14.1 percent indicated that financial problems would prohibit such achievement. In contrast, twice as large a percentage (28.1 percent) indicated that marriage plans would intervene. The SCOPE survey also included 15 questions about factors influencing college choice. The students were asked to indicate whether each factor was of major or minor consideration or of no importance. The ten most important factors were teaching reputation of college (70.5 percent), college has friendly environment (54.6 percent), low-cost to attend college (36.0 percent), college is co-educational (30.4 percent), college has intellectual environment (29.9 percent), research reputation of college (28.6 percent), college offers financial aid (28.4 percent), college is close to home (27.5 percent), college has active political life (20.7 percent), and religious emphasis of college (18.5 percent).

Many of the 33,965 high school seniors in the four states surveyed in 1966 were located and followed up the following year (Tillery 1973). "It was found that the 1966 graduating classes from the four project states split nearly equally into two groups, one of which had been pulled into the college world, and the other drawn into what might be considered a world of instant adulthood" (p. 23). Of the half who had gone to college following high school graduation, differences were found in terms of the relationship between "intellectual predisposition" and the choice between junior and senior colleges. When intellectual abilities were divided into quartiles, it was found that the junior colleges drew nearly equally from all four quartiles

(21 percent from each of the top three quartiles, 18 percent from the lowest quartile). In contrast, the senior colleges drew the following quartiles: 45 percent, 34 percent, 21 percent, and 11 percent.

The SCOPE study provided persuasive evidence of the differentiating and sorting influence of socioeconomic status (SES) and its influence on type of college chosen.

> It has been documented that children from homes with higher SES are much more likely to go to some college and are more likely to go to four-year colleges and universities than children from homes with average or below average SES. For example, 52 percent of the college-goers from high professional families went to private colleges and universities in contrast to 31 percent of the children whose fathers were skilled craftsmen (p. 70).

> This attraction of the 'elite' is especially true of the independent colleges and universities. Compared to the public or to the denominational colleges and universities, the independents attracted a higher proportion of their students from high income levels, from high scorers on measure (sic) of academic aptitude and intellectual predisposition, from professional and managerial families, and from students who made early decisions regarding college attendance (p. 132).

Much has been written about the relationship between local college availability and choice of college, especially concerning the relationship between availability and a student's socioeconomic status. Knoell's AACJC study of the community colleges in Philadelphia, St. Louis, San Francisco, and Dallas-Fort Worth are a case in point (Knoell 1970). She reports that:

> The local community college appears to be a much more critical factor in college attendance among black graduates than among whites, except perhaps in St. Louis where the district operated three campuses in 1968. The community college is accessible to both black and white students in each city in terms of its location. However, the colleges differed significantly with respect to other aspects of accessibility. These include not only availability of facilities for all who qualify for admission, but also cost, admissions standards, and comprehensiveness of programs (p. 54).

In another study, a sociologist and an economist joined forces to analyze data pertaining to the relative influence of a Miami, Florida community college on college going and college choice (Tuckman and Ford 1972). As in other studies, they concluded that local availability had an increasingly powerful effect on choice of college as one moves down the SES scale. In addition, they noted that ". . . future financial benefits from attending a college do not appear to have a direct effect on student choice" (p. 48). Also, in a discussion of the interaction of price and college, the authors suggest:

> Care must be taken in interpreting the role of price. The appropriate interpretation seems to be: the higher the price of the college considered by a student, the more likely he is to go to college. The incorrect interpretation is that as price increases, more students will go to college (p. 82).

A series of annual student surveys was begun in 1962 (*Plans Beyond High School . . .* 1971). The survey covering more recent years reveal considerable stabilization of trends as follows:

> The survey of 1968 revealed that a substantially higher percentage of white students intended to enter community colleges within the state than black students. The survey for 1969-1970 and 1971 revealed no pronounced change in the 1968 data. Both white and black students exhibited about the same interest in out-of-state colleges in 1971 as in 1968. White students showed a stabilized interest in private colleges and universities in Florida over the four-year period, in contrast to black students, whose interest declined. The percentage of white students hoping to enter public universities in Florida remained at the same level over the four-year period, while the appeal of public universities for black students grew slightly stronger (p. 12).

Another state survey's findings underlined the primacy of financial factors in college choice. The survey included all high school seniors in Indiana in the class of 1975 (*Educational and Employment Plans . . .* 1975). The findings revealed that a total of 29 percent of the high school seniors did not plan to enroll in any type of educational program after graduation. Only 1.5 percent of the seniors responded "I don't have enough money. It does appear in general that relatively few (1.5 percent) of the students report that they are not continuing their education because they lack the money—and most of those who so report are knowledgable about financial aid sources" (p. 32).

Bowers and Pugh's study (1971) used an especially designed, 22-item questionnaire distributed to all Indiana University freshman during the fall 1970-71 semester. A factor analytic type of analysis revealed that:

> Combined, the responses indicated that the same basic factors underlie the decision process for both parents and students, although they differed in the relative importance attached to each factor. Financial considerations, geographical location, and academic concern were 'parent' factors; while social and cultural opportunities and advice of other people were 'student' factors (p. iv).

In general "financial, geographic, and academic factors are more important to parents than to students, while students attach greater

importance to Social and Cultural and Informal advice factors" (p. 31). These researchers found that students attach a great deal of relative importance to the advice of others, particularly family members, Indiana University alumni, and high school teachers.

The final state study reviewed indicated that:

> The most salient factors influencing the selection of a particular college or university by seniors in 1971 were personal, that is, influences exerted by parents, friends, teachers, and other students. Nearly 34 percent of all respondents listed one of these factors as influencing their decision. The second most numerous category dealt with the matter of financing their educational program. More than 18 percent of the students chose an institution because they were given some form of financial assistance. They expected to be able to find part-time employment or required the financial support available as a result of living at home. An additional 16 percent of the respondents indicated that their choice of an institution was influenced by its location, a response which also underscored the importance of economic factors in the selection of an institution (p. 31).

Summary

The second major goal for student aid programs is that of choice; in other words, to provide sufficient funds so students can select the institution they feel will best fit their needs. This goal takes into account that a student's motivation in selecting a particular institution may not be based solely on academic reasons, and stresses the importance of a student being able to select an institution most compatible with her or his needs.

Promotion of choice also recognizes that by allowing freer movement between institutions of various costs, greater competition will be encouraged. It is hypothesized that by increasing the dynamics of the marketplace, institutions will be forced to become more sensitive to the student's educational needs. Students, on the other hand, should be expected to select institutions that will provide them with the most education for their money. This will stimulate the less efficient institutions to reexamine their organization and strive to become more efficient to compete with other institutions.

Finally the promotion of choice recognizes that each institution is not alike; that within the higher education sector there is great diversity; and that this diversity helps to promote a variety of educational experiences that in total helps to keep our higher education system strong. By allowing aid recipients to attend private as well as public institutions, sectarian as well as nonsectarian, liberal arts as well as professional schools, the health of the higher education enterprise is ensured.

The conditions that influence a student's choice of a particular college are as many as affect student access. A major difference is that the question of choice is contingent on a positive decision on access. As such, the factors that influence access also influence choice. The conditions that influence a student's choice can be examined in two stages: (1) those conditions that influence a student to select one institution over another, and (2) those conditions that allow a student to attend the institution of his choice.

At the first stage the most commonly reported influences are: the reputation of the institution, the cost of the institution, the socioeconomic background of the student, and the academic ability of the student. Studies on the realism of the student's knowledge about an institution—what quality of graduates does the institution produce or what is the economic return on the educational investment—are inconclusive. The fact remains that items concerning a school's reputation head the list of reasons students give for selecting an institution.

A student's decision based upon the second reason most often given for institutional selection—the cost of the institution—takes into consideration more than just the tuition expense. Factors such as cost of living on campus versus commuting, geographic location of the institution, and availability of student aid are all a part of the various costs of an institution and influence the selection decision. The third and fourth influences that affect the selection process—socioeconomic status and student's ability—play an influential role in the type and geographic location of the institution selected. Students from high SES families are more inclined to select private institutions or universities and to select institutions farther away from home than are students from low SES families. Students of high ability are more likely to aspire to the more highly academically ranked institutions.

The second stage of choice, the conditions that allow a student to attend the institution of his chosing, are affected by two major influences; namely, a student's academic ability and his ability to meet the educational costs. It is obvious that choice is a two-way street and if a student's selection is academically unrealistic, choice will not be achieved. However, if a student has been accepted by his first-choice institution, there must be a way for a student to meet the expenses of that school before the goal of choice will finally be achieved. It is at this point that financial aid has its maximum impact in helping to achieve the goals of choice.

Implementing Access and Choice through Need Analysis

The previous two sections have focused on the general question of access and choice in the belief that: (1) these are the two goals that first must be achieved to have effective and efficient aid programs, and (2) to achieve these goals there first must be a general understanding of where financial considerations are placed among all the various conditions that affect these two goals. With this understanding it is possible to increase the impact of aid funds by a more careful distribution of aid to the individual student. In other words, there are two key steps in designing an effective aid program. These are knowledge of the limitations and strengths of using aid funds to promote access and choice, and an effective distribution system that will deliver the correct amount of funds to the appropriate student. Having looked at the first step, access and choice, this study will now focus on the second step, the distribution of student aid, especially the method used to determine the financial need of the individual student.

Creating a Need-Analysis System

In the early 1950s, student aid was seen as a means for colleges to strengthen their student bodies by attracting students of special talents. More and more colleges used their limited aid funds to compete for these special students; therefore, it was not unusual that the financial aid offered did not reflect the student's true need. A few eastern institutions began to realize that this means of attracting students was very costly. As a result, several prestigious institutions joined forces with the College Entrance Examination Board to establish the College Scholarship Service (CSS). These colleges mutually agreed that the CSS would review the financial aid applications of all their students and estimate the student's financial need. The amount of financial aid offered by each institution thereafter would be based on a consistent and systematic estimate of need ("*Handbook for Financial Aid . . .*" 1973; Orwig 1971). CSS gradually became a major clearinghouse for analyzing the financial need of student aid applicants. In 1968, the American College Testing Program established the second national system of need analysis. With the creation of the Federal Basic Educational Opportunity grants in 1972, the U.S. Office

of Education established a third set of national standards for student need analysis.

Although there are three national need-analysis systems, it should be made clear at the outset that the situation at the present time is generally characterized by lack of coordination if not chaos. The Department of Health, Education and Welfare pointed out that "there are some 600 methods of need analysis approved by the U.S. Office of Education for use by institutions in distributing federal funds" (*Handbook*, p. 1-2). It was for this reason that the National Task Force on Student Aid Problems was formed in the spring of 1974. Their recommendations heavily stressed the need for coordinated management of the system.

> Reducing the confusion which faces students and their families in order to permit them access to the available student aid in the most efficient and effective way while respecting their human and legal rights.
>
> Improving the procedures by which the system is managed in order to permit the program managers to serve students, institutions, and society at minimal cost with maximal efficiency.
>
> Providing policy makers with an organized system in which they can make decisions which will best meet the needs of those for whom they are concerned and to assure that their intended goals can be most easily achieved (National Task Force on Student Aid Problems 1974, p. 9).

In practice, only a few of the more well-established systems have been used widely and the following discussion will be based on the characteristics of these systems.

Features of Need-Analysis Systems

The financial need of a student is defined as the difference between the total educational cost of attending an institution and the amount of funds a student and his family have available to meet these expenses ("CSS Need Analysis . . ." 1974, p. v). The development of a student need analysis is a systematic examination of a student's educational costs as well as of the available resources a student can call upon to meet these costs. The result is an estimate of the need a student has for financial assistance to cover the gap between expenses and available resources (*Handbook for Financial Aid . . .* 1973, p. 17; Henry 1975, p. 195).

There are five essential principles underlying the major need-analysis systems. The first is that *parents have an obligation to finance the education of their children to the extent they are able.* It is assumed that postsecondary training is the responsibility of the in-

dividual and his family as long as he or they can pay for it, and society should directly aid the individual only after these resources have been exhausted (Bowman 1975; "CSS Need Analysis . . ." 1974; Department of Health . . . 1975b; National Task Force . . ." 1975; "Student Need Analysis . . ." 1975). This concept is stated explicitly in the official Handbook for the 1975-76 Basic Educational Opportunity Grant Program: "the premise upon which all federal student aid programs is based is that the primary responsibility for meeting the cost of postsecondary education is that of the student and his or her family. Therefore, an assessment must be made of the family's ability to meet these costs (Department of Health . . . 1975a, pp. 1-2).

A second principle is that *in estimating the family's ability to pay, consideration must be given to more than just the family's gross income.* Since a family has an equal responsibility to each of their children to further their education, the amount of family resources available—income plus assets—must be divided equally. Need analysis, to be equitable, must consider the size of the family, the number of students already attending a postsecondary institution, and the amount of expenses that the family has incurred.

A third principle is that *the student also has the responsibility to help meet his educational expenses.* Therefore, the student's ability or opportunity to work during the summer and the student's savings and other assets must be considered in analyzing need.

A fourth principle is that, as much as possible, *a need-analysis system should be an impartial estimate of financial strength, that is, a need-analysis system should not judge how much a family should pay but what a family can afford to pay.* As stated in the description of CSS Need Analysis:

> The system must first deal with the objective fact of family financial circumstances and not distinguish between the frugal poor and the spendthrifty. If a family were expected to contribute an amount greater than its present ability dictated, the student would be penalized by being forced to find a way to assume the financial burden that could not be met by either his parents or the institution-aid program ("CSS Need Analysis . . ." 1974, p. 5).

The last principle is that *need-analysis systems are guides and not a substitute for judgment.* Because of the various factors that go into establishing a family's ability to pay, and because a family's economic situation can change so rapidly, administrators of financial aid programs need to be aware that the family's ability to pay as determined

by a need system is subject to review and should be revised if conditions warrant.

Steps of Need Analysis

The crucial factor in developing a reliable need-analysis system is having the means to collect accurate data concerning the applicant's resources and estimated educational expenses. This data then must be analyzed by an established rationale.

There are three types of data used in need analysis:

1. There must be a measurement of the economic well-being of the student and/or parent family unit.
2. There must be a measure of the family's ability to meet post-secondary education expenses.
3. There must be a determination of the actual student educational expense budget.

The student financial need is then derived by subtracting the student's economic well-being (available family income and assets, and student-generated funds) from the estimated educational expenses (Halstead 1974; *Handbook for Financial Aid . . .* 1973; Henry 1975; "National Task Force on . . ." 1975).

While need-analysis systems strive to reflect the ability of a student to meet his educational expenses without making moral judgments concerning a family's spending habits, the need-analysis process inherently contains many economic and moral judgments as the basis for establishing the point where a family can afford to contribute to their children's expenses. The established need-analysis systems attempt to standardize these judgments by using standard economic classification systems. Prior to 1975, both the College Scholarship Service and the American College Testing Program used income standards established by the Bureau of Labor Statistics; however, they differed on their calculations because CSS used the medium standard of living while ACT used the low standard (Student Financial . . . 1974a). More recently, both organizations have accepted the consensus model of need analysis, which uses the same income level as set by the Bureau of Labor Statistics ("National Task Force on . . ." 1975).

The estimate of a student's educational expense is also an item that is subject to judgment. Under some systems, an "average" educational expense budget is used to determine what the student's educational cost will be. Under other need-analysis programs, the actual expense estimated by the student is used to determine the student's educational cost. The latter cost figure would be used when the objective of

the need-analysis system was to determine the student's actual financial need. The former method of establishing an average educational cost figure would be used in systems that wished to determine the individual need as compared to some average.

Systems That Determine Need

Over the course of student aid program development six distinctive need-analysis systems have been created to meet four specific goals. The first and most basic need-analysis system is performed by the institutional financial aid officer. For need-based aid, this required examining the student's financial resources and expenses and then calculating the estimated need. In the early need-analysis systems this meant merely a review of the estimate of family income and educational expenses submitted to the school by the student. Rarely did this rough analysis by the financial aid officer include a sophisticated analysis of student and family assets, size of family, or other financial considerations.

A second system used by financial officers is the "alternative income system." Under this system, the financal aid officer calculates the amount of support a student should be expected to receive from his family by adding together the family contributions calculated from both income and assets. These contribution figures are derived from a standardized table developed by the institution or by one of the centralized need-analysis services. This table calculates what the average contribution should be according to income level. Limited consideration is given to family size and extraordinary expenses.

The "federal income tax system" is similar to the alternative income approach because the determination of the family's ability to pay is calculated from a standardized table. Under this method, the table indicates the amount of federal income tax paid by the family for each income level. The amount paid in taxes plus a percentage of net assets are added together to calculate the contribution to the educational expenses from the family income. Student aid would be determined by subtracting this figure from the student's educational expenses.

Three other need-analysis systems—the "nationally standardized need-analysis systems" of the College Scholarship Service and the American College Testing Program and the Need Analysis System of the Basic Educational Opportunity Grant Program—are similar in makeup, although their final need results develop different need figures. These systems are highly sophisticated and take into consideration a variety of economic conditions, including family and

student income, family and student assets, extraordinary expenses, number of children in postsecondary institutions, and the like. These systems have established standards of how much a family should contribute at various degrees of economic strength. These standards are flexible and are determined by national economic conditions.

The final type of need-analysis system is an "individual need-analysis program" developed by individual colleges and universities. These systems vary in sophistication, but all attempt to develop a need analysis that would be consistent, reliable, and fair. The distinctive characteristic of these systems is that the level of family contribution is determined by the general financial background of the students at the institutions and the available funds (*Handbook for Financial Aid . . .* 1973; Henry 1975).

Each of these need-analysis methods have been developed to calculate the need of a student at a certain funding level. There are essentially four levels. The first level is set for *categorical* needs. For programs that are categorical in nature (programs that are designed to assist a student to meet certain specific costs, such as tuition and fees), only student need to the level of a specific category is calculated. These programs are not concerned about whether the student has greater financial needs, since they will only award aid up to a given amount.

Another level of need analysis is to calculate the *absolute* need of a student. Absolute need analysis considers the actual educational expenses of the student. This means that for two students of the same relative economic strength, the student attending a very expensive private institution would have a much larger calculated need that the student attending a very inexpensive public institution. Need-analysis systems that calculate the *relative* need of the student have attempted to average out the cost of attending an institution. Essentially, the rationale behind this type of analysis is that the aid program will attempt to equalize the student's chances for equal access and reasonable choice up to the level of the "average" student. If the student wishes to pursue an education of above-average cost, then the student will have to find some other way of making up the expenses that exceed the average cost. The final level of need analysis is really not an estimate of the student's actual or average need but is used as a means to *ration* the amount of aid available in the program. Under this type of analysis the calculations have been adjusted so that the determination of need will be made at a level to maximize the distribution of the resources available in the aid program. Obviously, a program that is concerned with seeing that the maximum number of students re-

ceive some aid cannot afford to calculate their award on absolute need, unless the program has an unlimited amount of funding (Boyd 1975; Higher Education Daily, Sept. 15, 1975, p. 6).

Summary

The keystone to any student aid program is the amount of aid awarded. This amount is usually determined by a need-analysis system, the goal of which is to develop a reliable process that will consistently and equitably distribute funds to persons of similar need. However, three areas of need analysis have caused some concern. The first is the inconsistency between different need-analysis systems and their basic economic assumptions, e.g., at what income level should a family be expected to contribute some support to their children's education? What is the appropriate percentage of family assets that should be used as educational resources? How much should the student be expected to earn during the school year or during the summer that should go in support of his education? All need-analysis systems maintain that it is the family's responsibility to support the cost of their children's postsecondary education as much as possible. It is the income level at which support must begin that is inconsistent.

Every need-analysis system has a family-income starting point. Below this point a family's financial condition is not considered strong enough to be able to reasonably support the additional burden of college expense. Above this point, families are expected to contribute a portion of their discretionary income—their income in excess of this minimum point—in support of their children's college education. How this minimum point is determined has caused the descrepancies in need-analysis systems.

In 1973 the three major need-analysis systems—College Scholarship Service (CSS), American College Testing Program (ACT), and Basic Educational Opportunity Grants (BEOG)—used three different points to arrive at initial family contribution: the Bureau of Labor Statistics' low-income standard, the Bureau of Labor Statistics moderate-income standard, and the Social Security threshold standard. As a consequence, the point of zero family contribution varied by $4,000 (*Student Financial . . .* 1974). This discrepancy in the point at which families should begin to contribute to their children's higher education has caused great concern and disillusionment among recipients' families. It is hard for them to understand why one need system will qualify them for aid while another will not (*Student Need . . .* 1975).

The National Task Force on Student Aid Problems (1975) focused

on this problem and has recommended that the major need-analysis systems all use the same "consensus model." At the time of this writing, CSS and ACT have agreed to the elements of a consensus model and are currently using it in their analysis. The BEOG program, while recognizing the consensus model, still has not committed itself to one analysis system but continues to recognize a variety of systems. This is also true of the other state and federal aid programs. As stated in the final regulations of need-analysis systems to be used with National Direct Student Loan, College-Work Study, and Supplementary Educational Opportunity Grant Programs, the basic grants need-analysis method and the income-tax method are acceptable because "both methods produce expected contributions considerably higher than the benchmark figure" (Higher Education Daily Supplement, October 28, 1975, p. 1). In other words, these need-analysis systems are acceptable not because they accurately and consistently measure a student's need gap but because they allow for a smaller need gap than other systems. Thus, a large portion of available need-based student aid funds are awarded in a manner that may appear inconsistent, unfair, and inequitable to the recipients.

The second area of concern is the variety of purposes that need-analysis systems serve. Depending upon the different judgments made of the amount of family contribution and educational expenses, need analysis can be used to determine absolute need, relative need, or can be used as a rationing device for the distribution of aid funds. Award recipients are confused, even bewildered, when under one system their need is calculated at one amount and under a different system a totally different figure is developed. Aid recipients and their parents assume that these various systems are attempting to measure the same thing. The various aid programs have failed to keep students and their parents honestly appraised of the basic assumptions they are using in their need analysis (*Student Need . . .* 1975).

A third problem of need analysis is a product of the basic assumptions made in establishing what amount a family is expected to provide for their children's education. With need analysis, what a family *should be able* to contribute to their children's education is determined. This amount may vary greatly depending upon the family's *willingness* to support their children's education. The controversy here is whether there should be a recognition that the family's willingness may differ considerably from the need-analysis determination of their ability. On the one hand, the argument is that the fairest and most efficient distribution aid of funds is to those families who are willing to make the maximum sacrifice, so that

need-analysis systems should not recognize "willingness" but only a predetermined norm. The other side of the argument is that unless the family's willingness to pay is also considered, students of high potential may never achieve a postsecondary education because of the lack of support they received from their parents (*Student Need . . .* 1975).

Policy Implications

Student aid programs have become an important means to finance post-secondary education and to achieve specific social goals. With aid funding now over $8 billion, it is important that attention be given to insuring the most efficient use of these funds. It is the major premise of this report that for efficient use of student aid funds to occur there must be a clear understanding of the goals of student aid programs. These goals are identified as: encourage equal educational opportunity—access, choice, and retention; increase the flow of students within the educational marketplace; and preserve the diversity of postsecondary education.

The second major premise of this report is that if the goals of access and choice are achieved, in all likelihood the remaining goals will be achieved. It was therefore felt that a close examination of the various influences that affect a student's access to and choice of a postsecondary institution was necessary.

The current available research is equivocal about the extent to which student aid is a viable means to promote the goals of access and choice. This lack of precision is due both to the complexity of the various influences that affect a student's desire to pursue further education and the style of research used to examine this problem. Research studies have identified four major influences that affect both access and choice: parental influence, academic ability and achievement, financial strength, and peer influence. However, these studies have not identified conclusively the order of importance of these influences, nor have they identified to what degree each influence is the result of the other. For example, what degree of parental support is the result of the parents' financial strength or their perception of their children's ability to benefit from a further education?

Two points are clear. First, if a student has no motivation or does not have the academic or ability qualifications to be accepted by a postsecondary education institution, financial aid will have no impact in encouraging that individual to further his education. Second, the research has shown that a student's motivation is developed over a longer period of time. If a lack of financial resources plays an important part on the various influences that affect the long-term development of a student's motivation, then it will take more than an announcement of aid in the spring of a student's senior high school

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year to influence those borderline students to pursue further education. It is therefore important that *a student and his family be made aware, very early in the student's education, that financial assistance will be available.*

This means that it is necessary for the sponsors of the various aid programs to inform the student and the student's parents, perhaps as early as the first year of the student's elementary education, that financial assistance for postsecondary education will be available if needed. Only this approach will insure a greater chance that financial concerns will be eliminated from the student's decision in planning education beyond high school. If the student's parents are assured of the possibility of aid, they probably will encourage their children to continue their education.

The research studies do demonstrate that for those students who are motivated to continue their education, financial assistance is very important. The type of education to which a student aspires is influenced by his confidence: (1) that he can afford an institution, and (2) that he has sufficient resources to achieve his overall objectives. If student aid is to have maximum impact on the children's decision, it is necessary for a student to have some awareness of the amount of assistance available before committing himself to attend a particular institution. In other words, if a financially disadvantaged student is qualified to attend a university but does not know how much assistance will be received, there is a greater chance that he will aspire only to institutions he can realistically afford. It is therefore important that *announcement of the size of assistance be made before a student has to select an institution, so that a student can base his educational decisions on academic and not primarily financial considerations.*

Since the overall goal of student aid is to assist students who without aid will not attend a postsecondary institution, it is necessary to examine the need-analysis system of student aid programs. This review identifies three major conditions that affect both access and choice. The first is a determination by the various aid systems of a student's financial need. Due to the many need-analysis systems used and the variety of assumptions and judgmental factors going into each system in determining a level of an individual's financial strength, there has been great inconsistency in determining a student's need gap. Therefore it is important that *all student assistance programs establish one method of determining a student's financial need.*

The second student aid program characteristic that has been touched on in this paper, which also affects the achievement of the

goal of access and choice, is the establishment of financial need. As demonstrated in the research, for students who have the financial ability to afford the postsecondary education of their choice, student assistance has little impact on their ability to achieve educational goals. Therefore, student aid programs that fail to consider the financial need of the student do little to forward the goals of access and choice. It is important that *all student aid programs consider the financial need of the student as a primary determinant of the size of award offered.*

The third condition of need analysis that affects access and choice is the amount of aid offered. This amount is usually determined by the goals of the need-analysis systems. The amount of aid offered a student is determined by whether the aid program is designed to grant awards based on a student's absolute need, relative need, or is designed to distribute aid in a rationing fashion in order to increase the number of students receiving awards.

If student assistance programs are to help achieve the goals of access and choice, it is important that *student assistance programs determine the size of the award on a student's absolute need.* Aid programs that determine the size of the award on other than an absolute need—need determined by a student's actual financial strength and an estimate of the actual expenses at the institution he plans to attend or is attending—will have less affect on the student's ability to pursue a postsecondary education.

Another characteristic of student aid programs that affects access and choice is the various program restrictions. As shown for state aid programs, there are a number of restrictions that influence a student's ability to attend the college of his choice. Three basic restrictions of this type are: (1) geographic restrictions that prevent a student from attending an institution outside specific boundaries, such as state lines; (2) restrictions that prevent a student from attending certain types of institutions, such as private or proprietary institutions; and (3) restrictions on eligibility based on attendance, that is, requiring a minimum number of credit hours per academic term before a student is eligible for assistance. If aid programs are to have a maximum impact on access and choice, it is imperative that *all assistance programs eliminate those restrictions that prevent a student from attending a particular postsecondary institution.*

The recent studies in research concerned with student aid and the achievement of their basic articulated goals have demonstrated that while aid is not the only means to achieve these goals for the financially disadvantaged, it plays a very important part. These aid

programs can play a larger role in achieving their goals if they re-evaluate their various need-analysis systems and program regulations. By taking into consideration the factors that influence a student's ability to select and attend a postsecondary institution, aid programs can greatly increase their ability to further the goal of equal educational opportunity and, at the same time, increase the role of student aid in promoting a freer flow in the academic marketplace and preserve the diversity of postsecondary education.

In summary, the studies that have been examined in this report clearly indicate that student assistance does play an important role in the achievement of access and choice. How effective student assistance is in achieving these goals as compared with other means is undetermined. The current available research is very limited because most of it has not been designed to directly assess the impact of student assistance, and therefore the various methodologies used have been inadequate in examining this question. There is great need for further research to focus on the borderline student instead of on the motivated, high-ability student. There is also a great need for longitudinal research to provide data about the college-going decision-making process of a student from the early secondary level through final postsecondary graduation. Such studies must be accomplished before there can be a true assessment of whether student aid is achieving its stated goals.

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